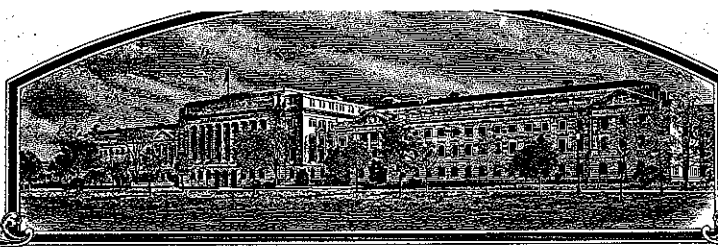


No.

200400051



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Rutgers, The State University of New Jersey

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

FESCUE, TALL

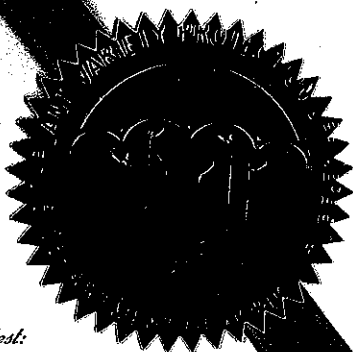
'Riverside'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-third day of May, in the year two thousand and seven.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture



REPRODUCE LOCALLY. Include form number and date on all copies.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

200400051

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Rutgers, The State University of New Jersey		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 5301		3. VARIETY NAME Riverside	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Foran Hall Plant Biology & Pathology Dept. 59 Dudley Road New Brunswick, NJ 08901		5. TELEPHONE (Include area code) 732 - 932 - 9711 ext. 160		FOR OFFICIAL USE ONLY PVPO NUMBER 200400051 FILING DATE 12/15/2004	
		6. FAX (Include area code) 732 - 932 - 9441			
		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Government Institution			
8. IF INCORPORATED, GIVE STATE OF INCORPORATION		9. DATE OF INCORPORATION			
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers.) Dr. William Meyer c/o Rutgers University - The State University of New Jersey Foran Hall Plant Biology & Pathology Dept. 59 Dudley Road New Brunswick, NJ 08901					
11. TELEPHONE (Include area code) 732 - 932 - 9711 ext. 160		12. FAX (Include area code) 732 - 932 - 9441		13. E-MAIL	
14. CROP KIND (Common Name) Tall Fescue					
15. GENUS AND SPECIES NAME OF CROP Festuca arundinacea		16. FAMILY NAME (Botanical) Poaceae		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO THE NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> 5 CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER Daniel Rossi			SIGNATURE OF OWNER Daniel Rossi		
NAME (Please print or type) Keith R. Cooper			NAME (Please print or type) Daniel Rossi		
CAPACITY OR TITLE Senior Associate Director			CAPACITY OR TITLE Senior Associate Director		
DATE 8/16/06			DATE 8/16/06		

Exhibit A:

200400051

Origin and Breeding History

Riverside (BT: 6/14/2006)
5301 Tall Fescue

Riverside (BT: 6/14/2006)
5301 tall fescue (*Festuca arundinacea* Schreb.) is a medium low growing, dark green medium fine-leaved, turf-type tall fescue selected from the maternal progenies of 40 clones. Progenies of ten similar clones served as additional pollen sources.

The parental germplasm of 5301 tall fescue traces its origin to plants selected from old turfs of the United States in a germplasm collection program initiated in 1962 and to plants selected from or related to Rebel tall fescue (Funk et al., 1981). Attractive clones were selected from old turfs in Birmingham, AL; Athens, Atlanta, and Milledgeville, GA; Preston, ID; Baltimore, MD; Bayonne, Jersey City, Elizabeth, Princeton, and Cape May, NJ; eastern North Carolina; Philadelphia, PA; Nashville, TN; Lexington, KY; Cincinnati, OH; Dallas, TX; and northern Mississippi. The tall fescue plants selected from old turfs were of unknown origin. All were large patches of turf surviving in stressful environments indicating that they had persisted and developed over a period of many years.

A few hundred attractive, turf-type plants were collected and established in a spaced-plant nurseries and/or frequently mowed clonal evaluation trials at Rutgers University. All but a few dozen of the most promising plants were quickly discarded. The best selections were very different from any tall fescue variety in existence at the time of collection. They produced lower-growing turfs with finer leaves, greater density, darker color, and greater tolerance of close mowing.

The most promising plants were identified by their persistence and appearance in old turfs and their performance in spaced-plant nurseries, mowed clonal evaluation tests, and single-plant progeny trials under turf maintenance. Intercrosses of the best performing plants were subjected to varying cycles of phenotypic and genotypic selection depending on their date of collection. New sources of germplasm were added to the breeding program as it became available from the continuing collection program. Each cycle of selection showed continued progress in producing lower-growing, darker green, attractive plants with improved turf performance scores. Selection was also effective in maintaining high seed yields, and good stress tolerance. Substantial progress was made in developing tall fescues with finer leaves, a lower growth profile, increased persistence under close mowing, and

increased density.

Large numbers of single-plant progenies were seeded in turf evaluation trials at the Plant Science Research Farm at Adelphi, NJ in 1995 and 1996. The plants selected from progeny evaluation were selected from spaced-plant nurseries at Adelphia following varying cycles of phenotypic and genotypic selection of germplasm selected from old turfs and germplasm selected from or related to Rebel tall fescue.

Following a period of summer stress due to heat, drought, and disease in late summer of 1997, a total of 3,000 plants were selected from 50 of the best performing single-plant progeny turf plot. Eighteen progenies were from the 1995 test, and 32 from the 1996 test. Selection of progenies was based on performance records as well as appearance at the time plants were selected from these progeny plots. Selection of plants from each progeny was based on attractive very dark green color, medium-fine leaves, abundant tillering, and freedom from disease. Selected plants were transferred to a greenhouse and subsequently established in an isolated field nursery at Adelphia. A total of 2,521 plants were removed from this nursery prior to anthesis in the spring of 1998. Breeder seed was harvested from 167 plants with the best floret fertility. This breeder seed was sent to Advanta Seeds Pacific to plant a morphological nursery in the fall of 2000.

2004 0005 1

Diagram of Origin and Breeding History

'Riverside'
<5301> Tall Fescue
(6/16/14/2006)

- 1962 - 1994: Germplasm collection, evaluation, and genetic improvement.
- 1995 - 1996: Planted single-plant progenies of plants selected from current cycles of population improvement programs in closely mowed turf trials at Adelphia and North Brunswick, New Jersey.
- 1997: Selected 3,000 plants from 50 of the best performing single-plant turf plots planted in 1995 and 1996. Established selected plants in an isolated spaced-plant nursery at Adelphia, New Jersey.
- 1998: Removed 2,521 plants prior to anthesis. Breeder seed harvested from 167 plants with excellent appearance and floret fertility.

2. Breeder Seed Maintenance:

Breeder seed is maintained by Rutgers University. A foundation field was planted in isolation in 2000 in Jefferson, OR. Seed was harvested in bulk in 2001 and 50 pounds in maintained in cold storage. Seed propagation is limited to three generations, one each of foundation, registered, and certified.

3. Stability and Uniformity:

^{'Riverside'}
5301^(BT: 6/14/2006) has been a stable uniform cultivar over two generations. No off-type or variant plants have been observed during the multiplication or reproduction. Turf plots of 5301 have been uniform.

Exhibit B:**Novelty Statement of ^{'Riverside' (BT: 6/14/2006)} 5301 Tall Fescue**

The following summary outlines the distinctive characteristics of ^{'Riverside' (BT: 6/14/2006)} 5301. The novelty of 5301 is based on the unique combination of these characteristics. 5301 is most similar to Rebel II, but may be differentiated by using the following criteria:

1. ^{'Riverside' (BT: 6/14/2006)} 5301 has a heading date later than Rebel II (tables 1A, 1B).
2. The genetic color of 5301 is darker compared to Rebel II (tables 1A, 1B).
3. 5301 has a mature plant height at least 30 cm shorter than Rebel II (tables 1A, 1B).
4. The flag leaf characteristics for 5301; height, length, sheath length and internode length are all less compared to Rebel II (tables 1A, 1B).
5. The panicle length is at least 16 cm shorter for 5301 compared to Rebel II (tables 1A, 1B).
6. The leaf blade characteristics for 5301; height, length, sheath length and width are all less compared to Rebel II (tables 1A, 1B).
7. 5301 has a shorter distance between the two lower most whorls compared to Rebel II (tables 2A, 2B).
8. The length of the panicle ^{from} ~~from~~ the lower most whorl to the apex is shorter for 5301 than Rebel II (tables 2A, 2B, illus. 1).
9. 5301 produces fewer plants with purple pigmentation in the panicle than Rebel II (tables 3A, 3B).
10. ^{'Riverside' (BT: 6/14/2006)} 5301 has a lower seed weight compared to Rebel II (tables 3A, 3B).

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY PROGRAM
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

**EXHIBIT C
(TALL & MEADOW FESCUES)**

**OBJECTIVE DESCRIPTION OF VARIETY
TALL & MEADOW FESCUES
(*Festuca* spp.)**

NAME OF APPLICANT(S) Rutgers, The State University of <i>NEW Jersey</i> <i>(BT: 8/4/2006)</i>	TEMPORARY DESIGNATION 5301	VARIETY NAME Riverside
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) Foran Hall Plant Biology & Pathology Dept. 59 Dudley Road New Brunswick, NJ 08901		FOR OFFICIAL USE ONLY PVPO NUMBER 200400051

Place the appropriate number that describes the varietal characteristics of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089). Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characteristics marked with an asterisk * are characteristics which should be recorded.

* 1. SPECIES: (With comparison varieties, use varieties within the species of the application variety)

 X 1 = *F. arundinacea* (Tall)

Turf Types

1 = Kentucky 31 2 = Rebel 3 = Olympic 4 = Bonanza 5 = Arid 6 = Rebel II
7 = Shortstop 8 = Silverado 9 = Rebel Jr. 10 = Mini Mustang 11 = Crewcut 12 = Bonsai

Forage Types

20 = Kentucky 31 21 = Martin 22 = Forager 23 = Mozark
24 = Kenhy 25 = AU Triumph 26 = Fawn 27 = Cajun

 2 = *F. pratensis* (Meadow)

30 = Admira 31 = Beaumont 32 = Comtessa 33 = Ensign 34 = Trader

* 2. CYTOLOGY:

 42 Chromosome Number

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

 Transition Zone West Northeast Other (Specify):

* 4. MATURITY: (Date First Headed, 10% of Panicle Emergence)

 7 Maturity Class 1 = Very early () 2 = AU Triumph 3 = Early (Fawn) 4 = K31, Kenhy 5 = Medium (Rebel)

4. MATURITY: (continued)

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6 = Bonanza

7 = Late (Silverado)

8 = ()

9 = Very late

Date Headed 38.33 days after April 1, _____

Location Albany, OR

 Days earlier than
 Maturity same as
4.00 Days later than 6

} Comparison Variety

* 5. MATURE PLANT HEIGHT CM: (Average of 100 culms from crown to top of panicle, if panicle is nodding, straighten)

104.63 cm Height

30.34 cm Shorter than 6

Height same as

 cm Taller than

} Comparison Variety

* INTERNODE LENGTH CM:

(First internode subtending the flag leaf)

12.37 cm InternodeLength

7.90 cm Shorter than 6

Length same as

 cm Longer than

} Comparison Variety

* HEIGHT AT EAR EMERGENCE CM: (Flag leaf height from crown to flag leaf node)

61.73 cm Height

20.07 cm Shorter than 6

Height same as

 cm Taller than

} Comparison Variety

* 6. GROWTH HABIT: (Mature Plants)

7 1 = Prostrate ()

3 = Semiprostrate ()

5 = Horizontal ()

7 = Semierect (Rebel)

9 = Erect (Mini Mustang)

* 7. RHIZOMES (Psuedo):

 mm Length

1 1 = Absent ()

2 = Rare (Rebel)

3 = Common ()

* 8. LEAF BLADE: (Tiller leaves/ turf color)

* 7 Color: 1 = Light green ()

3 = Medium light green ()

5 = Green ()

7 = Medium dark green ()

9 = Very dark green ()

5 Specify rating of comparison variety

* 1 Anthocyanin: 1 = Absent ()

9 = Present ()

* 1 Basal Hairs: 1 = Absent ()

9 = Present ()

* 1 Margins: 1 = Smooth ()

5 = Semi-rough ()

9 = Rough ()

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8. LEAF BLADE: (continued)

* 6 Width Class: 1 = Very coarse () 3 = Coarse () 5 = Medium ()
 7 = Fine () 9 = Very Fine () 6 = Medium-Fine

* TILLER LEAF LENGTH CM: (First leaf subtending the flag leaf)

* TILLER LEAF WIDTH MM:

40.83 cm Tiller Leaf Length7.62 mm Tiller Leaf Width8.20 cm Shorter than 60.88 mm Narrower than 6

Length same as

Width same as

Comparison Variety

Comparison Variety

 cm Taller than mm Longer than

FLAG LEAF LENGTH CM:

FLAG LEAF WIDTH MM:

41.93 cm Flag Leaf Length6.25 mm Flag Leaf Width9.37 cm Shorter than 6 mm Narrower than

Length same as

Width same as 6

Comparison Variety

Comparison Variety

 cm Longer than mm Wider than

* 9. LEAF SHEATH: (Basal Portion)

* 1 Anthocyanin (seedling): 1 = Absent (K31) 9 = Present ()* 9 Auricle Hairiness: 1 = Absent () 9 = Present ()

* 10. PANICLE: (At seed maturity except where noted.)

* 1 Shape: 1 = Narrow-tapering () 5 = Ovate () 7 = Oblong () 9 = Other (specify)* 7 Type: 1 = Compact (appressed) 5 = Intermediate () 7 = Open () 9 = Other (specify)* 9 Orientation: 1 = Nodding () 9 = Erect ()* Branch Pubescence: 1 = Glabrous () 9 = Pubescent ()

* 1 Anther Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green
 4 = Purplish 5 = Reddish 6 = Other (Specify)

* 1 Glume Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green
 4 = Purplish 5 = Reddish 6 = Other (Specify)

* 67.27 cm Panicle Length (from base to tip, if nodding, straighten; after anthesis)16.13 cm Shorter than 6

Length same as

Comparison Variety

 cm Longer than

200400051

13. ENVIRONMENTAL STRESS: (continued)

5 Winter Stress 1 = Susceptible () 5 = Tolerant () 9 = Resistant ()

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics, indicate the degree of resemblance with the following scale:

1 = Application variety is less than comparison variety 2 = Same as 3 = More than, better, greater, darker, etc.

Character	Varieties	Rating	Character	Varieties	Rating
Leaf Width	Rebel II	1	Leaf Color	Rebel II	3
Panicle Color	Rebel II	1	Panicle Shape	Rebel II	1
Seed Size	Rebel II	1	Cold Injury	Rebel II	2
Winter Color	Rebel II	3	Heat	Rebel II	2
Disease	Rebel II	2			

* 15. EXPERIMENTAL: Give a brief summary of the experimental design utilized to collect the data used on this form. Cultural conditions, number of plants measured and plant spacing must be specified.

A morphological nursery designated 00PVPPFA was established in September 2000, in Albany, Oregon. Experimental design consisted of 18 entries; 3 replications per entry; 20 plants per replication; for a total of 60 plants per entry. KY-31, Rebel II and Plantation were used as standards. Plants were established on 2.5 foot centers with a skip row between replications and between entries.

The nursery received 30 pounds of nitrogen per acre rate following establishment and 50 pounds of nitrogen per acre per year in 2001 and 2002. The fertilizer source was 15 - 15 - 15 and was applied as a split application with 1/2 applied in the spring and 1/2 in the autumn. The nursery was sprayed twice each spring, 3 weeks between applications, with Tilt (2oz/acre rate), to prevent stem rust. One pound of Karmex per acre rate was applied during the late summer to prevent emergence of volunteer seedlings.

Data was analyzed using analysis of variance for a randomized complete block design. Means were calculated for each replication and then analyzed for tables 1A, 1B, 2A, and 2B (LSD=0.5).

(or: 6/10/2006 per applicant's authorization)

Exhibit D:**Additional Description**

~~'Riverside'~~
~~5301~~ Tall Fescue
 (BT: 6/14/2006)

~~'Riverside'~~
~~5301~~ is an improved turf-type tall fescue. It has a shorter mature plant height (tables 1A, 1B) than previously released tall fescue cultivars, such as KY-31, Rebel II, and Plantation. 5301 has a late maturity with a heading date later than KY-31 and Rebel II (tables 1A, 1B). 5301 exhibits a darker genetic color compared to KY-31 and Rebel II (tables 1A, 1B). The length of the panicle is shorter for 5301 compared to KY-31, Rebel II, and Plantation (tables 1A, 1B). The flag leaf characteristics; height, sheath length and internode length are all shorter for 5301 compared to KY-31, Rebel II, and Plantation (tables 1A, 1B). The leaf blade characteristics; length, width, height, and sheath length are shorter for 5301 compared to KY-31 and Rebel II (tables 1A, 1B). 5301 has a shorter palea and glume length than KY-31 (tables 2A, 2B). 5301 has more florets per spikelet compared to Plantation (tables 2A, 2B). 5301 has a longer spikelet compared to Plantation (tables 2A, 2B). 5301 expressed fewer purple pigmentation of the panicles compared to Rebel II (tables 3A, 3B). 5301 expresses a higher frequency of plants with only one main branch of the lower most whorl compared to KY-31, Rebel II, and Plantation (tables 3A, 3B, illus. 1). The milligram weight of 1,000 seeds of 5301 is less compared to KY-31, Rebel II and Plantation (tables 3A, 3B). 5301 has an erect growth habit compared to KY-31 and Rebel II (tables 4A, 4B). 5301 produces fewer plants which ~~express~~ ^{lacks} roughness of the leaf blade margins compared to KY-31 and Rebel II, but more than Plantation (tables 4A, 4B). The production of dark pigmentation at the nodes is less frequent in 5301 compared to KY-31, Rebel II and Plantation (tables 4A, 4B).

Table 1A 2001 Morphological Data

Cultivar	Heading Date (days after April 1)	Anthesis Date (days after April 1)	Genetic Color	Mature Plant Height (cm)	Plant Width (cm)	Panicle Length (cm)	Flag Leaf Length (cm)	Flag Leaf Width (mm)	Flag Leaf Height (cm)	Flag Leaf Sheath Length (cm)	Flag Leaf Internode Length (cm)	Leaf Blade Length (cm)	Leaf Blade Width (mm)	Leaf Blade Height (cm)	Leaf Sheath Length (cm)
KY-31	38.33	61.00	5.33	82.60	15.47	67.77	33.83	6.62	33.40	19.43	12.37	27.13	8.35	11.20	10.87
Rebel II	30.67	59.67	3.17	125.73	18.40	91.93	50.53	8.58	63.83	30.80	23.20	43.13	10.13	27.37	17.47
Plantation	34.33	61.00	3.68	113.23	22.13	85.87	46.57	7.92	56.20	28.03	20.27	38.37	9.65	22.33	16.90
	40.33	63.33	5.28	93.97	18.57	72.97	39.87	6.80	44.07	24.13	16.23	34.77	9.12	17.80	14.13
LSD (0.05)	1.95	1.37	0.36	6.90	1.68	4.89	2.92	0.94	4.50	2.00	1.77	2.89	0.79	2.38	1.55
C.V.	3.62	1.58	5.27	5.58	6.96	5.00	5.77	10.18	8.03	6.58	8.48	6.89	6.67	11.28	9.17

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

■ Cultivar under evaluation.

■ Significant difference over two years one location.

■ Significant difference over one year one location.

Table 1B
2002 Morphological Data

Cultivar	Heading Date (days after April 1)	Anthesis Date (days after April 1)	Genetic Color	Mature Plant Height (cm)	Plant Width (cm)	Panicle Length (cm)	Flag Leaf Length (cm)	Flag Leaf Width (mm)	Flag Leaf Height (cm)	Flag Leaf Sheath Length (cm)	Flag Leaf Internode Length (cm)	Leaf Blade Length (cm)	Leaf Blade Width (mm)	Leaf Blade Height (cm)	Leaf Sheath Length (cm)
<i>Reverside</i> 53015	27.00	62.67	5.57	104.63	24.77	67.27	41.93	6.25	61.73	24.70	23.03	40.83	7.62	32.03	16.17
KY-31	12.00	58.00	3.38	150.07	24.60	93.03	57.10	7.47	92.70	35.67	32.03	54.03	9.85	49.90	22.83
Rebel II	20.67	62.00	4.32	134.97	24.90	83.40	51.30	6.80	81.80	32.27	31.23	49.03	8.50	42.70	19.90
Plantation	28.33	64.00	5.58	116.37	24.70	75.17	43.97	6.47	67.03	27.73	27.27	42.27	8.15	31.53	17.47
LSD <i>0.05 J</i>	3.21	1.42	0.24	5.03	1.16	4.66	2.54	0.61	3.67	1.14	1.45	2.44	0.65	2.79	0.88
C.V.	4.13	1.62	3.33	3.24	3.40	4.60	4.25	7.02	4.09	3.12	4.10	4.31	6.07	6.38	3.87

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

■ Cultivar under evaluation.

■ Significant difference over two years one location.

■ Significant difference over one year one location.

Table 2A
2001 Laboratory Morphological Data

Cultivar	Lemna Length (mm)	Lemna Width (mm)	Lemna Area Length (mm)	Palea Length (mm)	Palea Width (mm)	Glume Length (mm)	Florets per Spikelet	Spikelet Length (mm)	Length of Longest Whorl (mm)	Distance Between Lower Most Whorls (mm)	Number of Spikelets on the Longest Whorl	Spikelets per Panicle	Length of Spike From Lower Most Whorl to Tip (mm)
Waverider	5.73	1.50	2.14	6.79	1.42	5.05	7.43	13.37	91.23	50.47	15.15	86.67	20.10
KY-31	6.16	1.56	2.15	7.28	1.49	5.77	6.77	13.80	115.03	61.87	15.10	110.00	27.20
Rebel II	5.75	1.49	2.24	6.99	1.40	5.11	5.80	12.30	100.60	58.53	15.00	101.00	24.33
Plantation	5.47	1.51	2.07	6.48	1.35	4.71	6.08	11.80	96.93	54.80	19.23	119.33	22.57
LSD (.05)	0.27	0.08	0.19	0.21	0.08	0.25	0.75	0.89	14.06	5.72	2.69	9.92	2.09
C.V.	3.53	3.66	6.55	2.26	4.00	3.62	8.13	5.13	10.51	7.76	11.99	7.65	7.04

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

■ Cultivar under evaluation.

■ Significant difference over two years one location.

■ Significant difference over one year one location.

Table 2B 2002 Laboratory Morphological Data

Cultivar	Lemna Length (mm)	Lemna Width (mm)	Lemna Awn Length (mm)	Palea Length (mm)	Palea Width (mm)	Glume Length (mm)	Florals per Spikelet	Spikelet Length (mm)	Length of Longest Whorl (mm)	Distance Between Lower Most Whorls (mm)	Number of Spikelets on the Longest Whorl	Spikelets per Panicle	Length of Spike From Lower Most Whorl to Tip (mm)
Wye [side]	6.57	1.33	1.05	6.19	1.16	4.76	5.07	10.60	81.57	50.73	17.28	99.67	22.30
KY-31	7.23	1.37	0.89	6.98	1.23	5.23	4.88	11.43	98.40	64.57	15.80	114.67	30.13
Rebel II	6.92	1.43	1.34	6.68	1.26	5.12	4.93	11.57	100.43	61.90	16.08	102.67	27.00
Plantation	6.59	1.30	0.80	6.28	1.12	4.64	4.28	9.87	78.77	50.20	16.13	98.33	22.07
LSD (0.05)	0.31	0.09	0.21	0.20	0.06	0.31	0.55	0.64	11.42	5.58	2.81	10.71	2.14
C.V.	3.42	5.07	15.21	2.28	3.87	4.66	8.02	4.30	9.95	7.65	13.49	8.42	6.75

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

■ Cultivar under evaluation.

■ Significant difference over two years one location.

■ Significant difference over one year one location.

Table 3A 2001 Additional Morphological Measurements of the Panicle

Cultivar	Anther Color % Purple	Panicle Color % Purple	Lemna Hairs % Present	Palea Hairs % Present	Lemna Awn % Present	Glume Color % Purple	Panicle Orientation % Nodding	Panicle Shape % Ovate	Panicle Type % Open	Branch Lower Whorl =1	Branch Lower Whorl =2	Branch Lower Whorl =3	Branch Lower Whorl =4	Seed Weight mg/1,000 Seeds
Brakeside	0	10	98	100	100	2	2	73	27	22	22	75	3	2082
KY-31	0	7	97	100	100	0	12	82	18	10	10	82	8	3345
Rebel II	0	15	98	98	100	0	10	83	17	13	13	87	0	2543
Plantation	0	10	98	100	100	0	0	78	22	13	13	83	4	2584

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.
 ■ Cultivar under evaluation.

Table 3B 2002 Additional Morphological Measurements of the Panicle

Cultivar	Anther Color % Purple	Panicle Color % Purple	Lemna Hairs % Present	Palea Hairs % Present	Lemna Awn % Present	Glume Color % Purple	Panicle Orientation % Nodding	Panicle Shape % Ovate	Panicle Type % Open	Branch Lower Whorl =1	Branch Lower Whorl =2	Branch Lower Whorl =3	Branch Lower Whorl =4	Seed Weight mg/1,000 Seeds
Brakeside	2	12	97	100	100	2	0	37	63	33	62	5	0	2137
KY-31	5	13	97	100	100	3	0	2	98	23	73	3	0	3348
Rebel II	5	30	98	100	100	10	0	23	77	28	72	0	0	2562
Plantation	7	30	98	100	100	2	0	38	62	35	63	2	0	2596

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.
 ■ Cultivar under evaluation.

Panicle Type Inflorescence

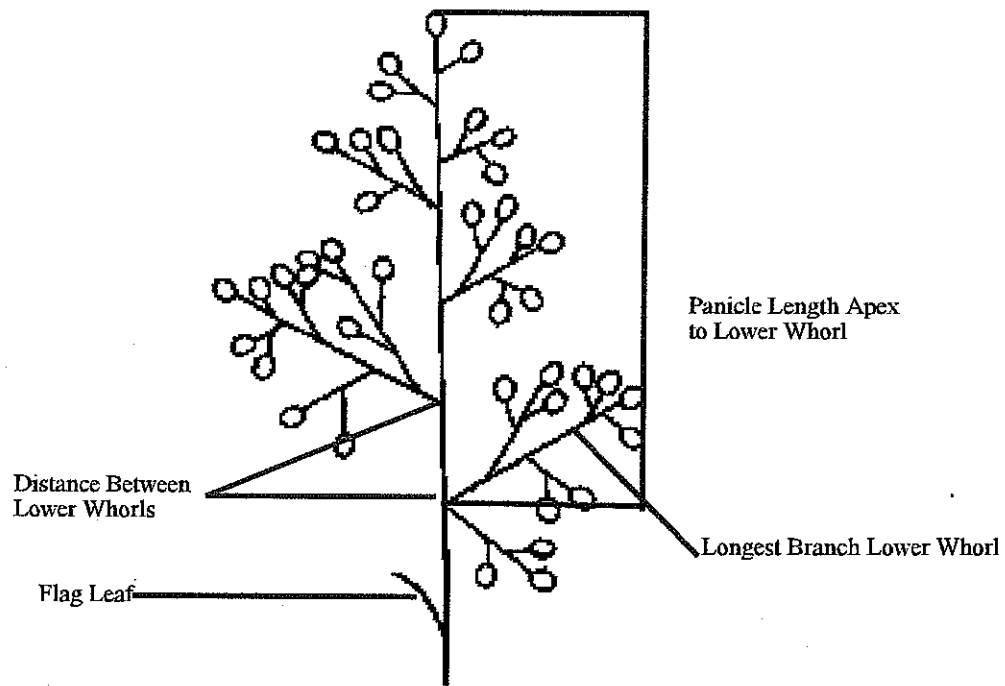


Illustration 1.

Table 4A 2001 Additional Morphological Measurements of the Leaf Blade

Cultivar	Growth Habit at Anthesis % Prostrate	Growth Habit at Anthesis % Semi-Prostrate	Growth Habit at Anthesis % Erect	Anthocyanin Present in the Leaf Blade % Purple	Leaf Blade Margin Roughness to the Touch % Smooth	Leaf Blade Margin Roughness to the Touch % Semi-Rough	Leaf Blade Margin Roughness to the Touch % Rough	Leaf Blade Margin Hairs % Present	Leaf Sheath Auricle Hairs % Present	Rhizomes % Present	Node Color % Distinct
Riverside KY-31	0	65	35	0	65	20	15	93	92	0	0
KY-31	40	50	10	0	70	15	15	80	92	0	48
Rebel II	10	77	13	0	83	12	5	87	85	0	13
Plantation	7	63	30	0	40	32	28	82	87	0	2

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

■ Cultivar under evaluation.

Table 4B 2002 Additional Morphological Measurements of the Leaf Blade

Cultivar	Growth Habit at Anthesis % Prostrate	Growth Habit at Anthesis % Semi-Prostrate	Growth Habit at Anthesis % Erect	Anthocyanin Present in the Leaf Blade % Purple	Leaf Blade Margin Roughness to the Touch % Smooth	Leaf Blade Margin Roughness to the Touch % Semi-Rough	Leaf Blade Margin Roughness to the Touch % Rough	Leaf Blade Margin Hairs % Present	Leaf Sheath Auricle Hairs % Present	Rhizomes % Present	Node Color % Distinct
Riverside KY-31	0	65	35	0	48	34	18	83	90	0	7
KY-31	40	50	10	0	75	13	12	80	77	0	40
Rebel II	10	77	13	0	77	13	10	87	92	0	23
Plantation	7	63	30	0	34	17	49	88	88	0	8

Measurements taken in Albany, Oregon; 3 reps; 20 plants/rep = 60 data points.

■ Cultivar under evaluation.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) Rutgers, The State University of New Jersey	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 5301	3. VARIETY NAME Riverside
4. ADDRESS (Street and No., or R.F.D. No., City, State, and Zip, and Country) Foran Hall Plant Biology & Pathology 59 Dudley Road New Brunswick, NJ 08901	5. TELEPHONE (Include area code) 732 - 932 - 9711 ext. 160	6. FAX (Include area code) 732 - 932 - 9441
	7. PVPO NUMBER 200400051	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES☐ NO

10. Is the applicant the original owner?

If no, please answer one of the following:☒ YES☐ NO

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☒ YES☐ NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☒ YES☐ NO

If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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